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FAX COVER SHEET

January 27, 2003

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TO: Examiner Ginette Peralta
Art Unit 2814
United States Patent and Trademark Office

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FAX number: (703) 308-7722
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FROM: Steve Ormiston

RE: Serial No. 09/503,638

PAGES: Number of pages, including this cover sheet: 5

ADDITIONAL MESSAGE:

Please find attached:

1. Response to the Office Action mailed November 27, 2002 w/ a certificate of facsimile transmission.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Kirk D. Prall, et al.

Serial No: 09/503,638 ✓

Filed: February 14, 2000

For: RANDOM ACCESS MEMORY

Attorney

Docket Number: MICR131.02

Group Art Unit: 2814

Examiner: G. Peralta

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Assistant Commissioner of Patents
Washington, DC 20231

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Sir:

RESPONSE TO THE OFFICE ACTION MAILED NOVEMBER 27, 2002

Applicants request a favorable reconsideration of the case for the following reasons.

1. The Examiner has failed to produce any evidence to support her supposition that a dopant implant is structurally identical to a dopant diffusion layer. Katayama repeatedly distinguishes implantation layers and diffusion layers. Nothing in Katayama teaches or even suggests implantation layers are structurally identical to diffusion layers.

2. The diffusion layer in Kayama is not aligned with an insulating spacer extending over the contact region, without regard to whether or not "substantially all" of the diffusion layer lies in the area not covered by the insulating spacer.

Rejections Under 35 U.S.C. § 102 -- Katayama Distinguishes Implants And Diffusion Layers

Claims 23-24 and 26-32 were rejected under 35 U.S.C. § 102(b) as being anticipated by Katayama (U.S. Patent No. 5,444,278).

In support of the rejection, the Examiner incorrectly asserts that Katayama "teaches the formation of the second impurity region by both diffusion and implantation.

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in col. 19, lines 55-67...." The passage in Katayama cited by the Examiner describes two implants. However, only one of the implants (implantation layer 104) is in the contact region. Consistent with the other embodiments shown and described in Katayama, the embodiment in Fig. 36, which is described at col. 19, line 55 through col. 20, line 24, includes an implantation layer 104 and then a diffusion layer 105 formed at the region contacting capacitor lower electrode 112. Katayama does not teach two implants at the region contacting capacitor lower electrode 112 as required in the claims.

Fig 36 is also in the region

The Examiner also has not offered any evidence to support her implied assertion that the structures formed by diffusion and implantation are identical. At page 4 of the Office Action, the Examiner states that "the presence of process limitations on product claims, which product does not otherwise patentably distinguish over prior art, cannot impart patentability to the product." Although the Examiner does not explain how or why this statement supports the rejection, she is apparently supposing that a dopant implant is structurally identical to a dopant diffusion layer. Applicants respectfully request that the Examiner produce evidence to support her supposition because Katayama clearly does not. Katayama repeatedly distinguishes implantation layers and diffusion layers -- implantation layer 3b and impurity diffusion layer 4 in Fig. 1, implantation layer 23b and diffusion layer 24 in Fig. 13 and implantation layer 104 and diffusion layer 105 in Fig. 36 to name just a few. Nothing in Katayama teaches or even suggests any of the implantation layers are structurally identical to any of the diffusion layers.

Rejections Under 35 U.S.C. § 102 -- Katayama Does Not Teach Diffusion Layers Aligned With Sidewall Spacers

Katayama also does not teach the further limitations in Claims 26 and 27. Claims 26 and 27 recite that the second dopant implant is aligned with the insulating spacer extending over the capacitor contact region such that substantially all of the second dopant implant is formed in only that portion of the capacitor contact region not covered by the insulating spacer. Diffusion layer 4 in Katayama is not aligned to the sidewall spacer, but rather extends under the spacer. E.g., Katayama Figs. 1 and 10.

In fact, the concept of alignment to a vertical structure wouldn't seem to even apply to the process of forming diffusion layers. The Examiner has ignored the alignment limitation and skipped right to the "substantially all" language in the claims. There is nothing in Katayama that teaches or suggests any of the diffusion layers are somehow aligned to the sidewall spacer without regard to whether or not substantially all of the diffusion layer is outside the spacer. If the Examiner disagrees, she is respectfully requested to specifically point out the passages in Katayama that support her assertion.

(Applicant notes for the record that if the implant is perfectly aligned with the spacer, then none of the implant will lie under the spacer. The "substantially all" language was included to expressly acknowledge the practical reality that it is not always possible to achieve perfect alignment. While you and I may know the scope of a claim construed according to the common meaning of its terms, as applied in the face of practical reality, infringement defense litigators sometimes choose to ignore the real world. Hence, Applicants intent was to make it exceedingly clear that Claims 26 and 27 did not require perfect alignment -- coverage already afforded, we think, by the common meaning of alignment in the context of sub-micron semiconductor fabrication techniques and, if not, then for sure under the doctrine of equivalents.)

Rejections Under 35 U.S.C. §§ 102 and 103 -- Katayama's Diffusion Parameters Do Not And Can Not Teach Or Suggest The Claimed Implant Parameters

With regard to the additional limitations of Claims 25, 28 and 33, the Examiner still has not shown how the diffusion parameters of Katayama anticipate or render obvious the implant parameters recited in Claims 25, 28 and 33. Absent such a showing, the Examiner has failed to establish a prima facie case of anticipation or obviousness.

The foregoing is believed to be a complete response to the outstanding Office Action.

Respectfully submitted,



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CERTIFICATE OF FACSIMILE

I hereby certify that this correspondence is being facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

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